

## **VESSEL TRAFFIC SAFETY**

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*The waters offshore California and within its ports and connected waterways provide for shipping by U.S. and foreign flag tanker, dry cargo, and passenger ships, as well as barges. These waters are also used by other watercraft, such as sport and commercial fishing vessels and recreational craft. While the vast majority of vessel transits are conducted safely, a number of unfortunate shipping mishaps and near misses in recent years have focused national attention on the issue of vessel traffic safety.*

### **BACKGROUND**

Substantial volumes of crude oil and petroleum products are transported off the California coast from Alaska, from foreign countries, and between California production sources. The Los Angeles/Long Beach and San Francisco Bay harbors include some of the highest volume oil importing ports and refining facilities in the United States. Unfortunately, collisions or ship groundings off the California coast, or within its congested ports or harbor areas, have the potential to occur as a result of these operations.

#### **Vessel Accidents**

The most recent major vessel collision off the California coast occurred in 1987 when the Atlantic Wing (a car carrier) and the Pac Baroness (a dry bulk carrier) collided off Point Conception, sinking the Pac Baroness. The spill of fuel oil was relatively small, but a cargo of toxic copper pellets went down with the ship. The decade of the 1990's began with two major spills in Southern California that occurred during routine mooring operations at offshore marine terminals. In 1990, the tanker vessel American Trader grounded on its own anchor during mooring operations at the Golden West marine terminal off Huntington Beach. This accident caused an oil spill which affected a substantial portion of the Orange County coastline, but gained even more notoriety because it occurred within months of the tanker vessel Exxon Valdez grounding in Alaska. In 1991, a mooring accident involving the tanker vessel Omi Dynachem occurred at the Chevron marine oil terminal off El Segundo. During mooring operations a vessel anchor got hooked on a 26-inch undersea pipeline, pulled it from the ocean floor to the surface, and caused a rupture, spilling oil into the nearshore ocean waters. These accidents demonstrated the need for Government and industry to develop and implement improved measures to prevent accidents during vessel transit, docking, or when loading or offloading.

Over the years several accidents and close calls have occurred within, or on approach to, the State's ports and harbor areas. In 1971, two Chevron tankers collided under the Golden Gate Bridge causing a major oil spill in San Francisco Bay. The spill adversely affected the Bay, as well as other environmentally sensitive areas such as the Duxbury Reef located about 15 miles north of the Bay's entrance. In 1988, the Arco Juneau ran into the Carquinez Bridge, rupturing tanks that were empty at the time. In Southern California, accidents and near misses have also occurred due to the volume of large vessels such as tankers, freighters, and passenger ships that pass through Los Angeles/Long Beach port facilities. However, new measures to inform mariners about other vessel traffic and hazards, combined with actions taken in recent years by Harbor Safety Committees established pursuant to State law, have substantially reduced the risk of such incidents occurring.

#### **State and Federal Legislation**

In the aftermath of Alaska's Exxon Valdez (1989) and California's American Trader (1990) oil spills, the California legislature passed the Oil Spill Prevention and Response Act of 1990 (Chapter 1248, Stats.1990; commonly referred to as SB 2040) and the U.S. Congress passed the Oil Pollution Act of 1990 (33 U.S.C. 2701 to 2761 - and other related sections). Both the State and federal legislation address a variety of issues regarding vessel traffic safety, emphasizing the need to prevent spills through the

implementation of marine terminal operation standards and inspections, port safety measures, and overall vessel traffic safety. The Office of Oil Spill Prevention and Response (OSPR) is the lead agency for implementing SB 2040 under the direction of its Administrator. The State Lands Commission operates the State's marine terminal inspection and monitoring program, as required by SB 2040, which is coordinated with the OSPR and U.S. Coast Guard.

## **Navigation Designations and Organizations**

A variety of measures have been established to help reduce the risk of vessel mishaps off the coast or within California ports. To facilitate a better understanding of the options for improving vessel traffic safety, several terms and organizations are described below.

***Areas to be Avoided.*** There are currently two internationally adopted Areas to be Avoided (ATBAs) off the Pacific coast which restrict the movement of tankers and barges carrying oil as cargo. The ATBA off the California coast recommends that all cargo carrying ships avoid the area which encompasses the Channel Islands National Marine Sanctuary, except those bound to and from ports at one of the islands. The second ATBA, off the Washington coast, recommends that all ships and barges carrying cargoes of oil or hazardous material avoid the area which encompasses most of the Olympic Coast National Marine Sanctuary.

***Harbor Safety Committees.*** Senate Bill 2040 established harbor safety committees for the harbors of San Diego, Los Angeles/Long Beach, Hueneme, San Francisco, and Humboldt. With representatives from shipping, fishing, tug operation, vessel pilot, government, and environmental organizations, these committees have developed harbor safety plans for each port, identifying key safety issues and making recommendations to the OSPR Administrator. Issues facing these committees include questions regarding the need for escort tugs, required capabilities of escort tugs, and the need for new or enhanced vessel traffic information systems to monitor and advise vessel traffic.

***Precautionary Areas.*** Precautionary areas are designated in congested areas near harbor entrances to set speed limits, prescribe vessel routing, or establish other safety precautions for ships entering or departing a port.

***Safety Fairways.*** Offshore waters in high traffic areas can be designated as safety fairways to prohibit the placement of surface structures such as oil platforms. The Army Corps of Engineers is prohibited from issuing permits for surface structures within safety fairways, which are frequently located between a port and the entry into a Traffic Separation Scheme.

***Traffic Separation Schemes.*** A Traffic Separation Scheme (TSS) is an internationally recognized vessel routing designation which separates opposing flows of vessel traffic into lanes, including a zone between lanes where traffic is to be avoided. TSSs have been designated to help direct offshore vessel traffic along portions of the California coastline such as the Santa Barbara Channel. Vessels are not required to use any designated TSS, but failure to use one, if available, would be a major factor for determining liability in the event of a collision. TSS designations are most often in international waters and proposed by the U.S. Coast Guard (USCG), but must be approved by the International Maritime Organization which is part of the United Nations.

***Vessel Traffic Information Services.*** Vessel Traffic Service (VTS) or Vessel Traffic Information Service (VTIS) refer to shipping services operated by the USCG or public/private sector consortiums. These services monitor traffic in both approach and departure lanes, as well as internal movement within harbor areas. These services use radar, radio, and visual inputs to gather real time vessel traffic information and broadcast traffic advisories and summaries to assist mariners. California has one VTS located in San Francisco Bay which is federally funded and operated by the USCG. A VTIS is located at the entrance of the Ports of Los Angeles/Long Beach which is funded and operated through a public/private partnership.

## ISSUE ANALYSIS

A variety of measures are being evaluated to further reduce vessel traffic hazards off the California coast and within its ports. Harbor Safety Committees are exploring approaches for increasing maritime safety within or near ports, such as establishing and enhancing vessel traffic information services to provide mariners with real time information regarding other vessels and hazards. Recently completed or ongoing studies evaluate the risk of vessel accidents off the coast and provide recommendations for methods to reduce this risk, including offshore Traffic Separation Schemes to help direct vessel traffic to the safest location for coastwise transit, and Areas to be Avoided to direct tanker traffic away from sensitive resources or areas of high risk. An emerging vessel traffic issue is the practice of offloading oil (lightering) from very large crude carriers to smaller tankers on the high seas off the California coast.

### Harbor Safety Committees

Senate Bill 2040 requires Harbor Safety Committees to prepare harbor safety plans and make recommendations regarding tug escorts and other navigation safety issues to the OSPR Administrator. These plans are intended to help ensure the safe operation and navigation of tankers, barges, and other vessels within each harbor. Membership on harbor safety committees includes representatives from port authorities, tanker operators, pilot organizations, dry cargo vessel operators, commercial fishing or pleasure boat operators, tug or barge operators, non-profit environmental organizations, labor organizations, the California Coastal Commission, San Francisco Bay Conservation and Development Commission (for San Francisco Bay), and the USCG. The committees may also include the U.S. Army Corps of Engineers and U.S. Navy. Final harbor safety regulations are now in place in Port Hueneme. Interim regulations for the other Harbor Safety Committees, including San Francisco Bay, Los Angeles/Long Beach Harbor, San Diego Bay and Humboldt Bay, have been submitted to the OSPR Administrator and should be final within the calendar year 1997.

### Information Services for Vessel Traffic

No system or set of procedures can ever completely eliminate maritime accidents within ports, harbor areas, or nearby offshore waters. However, information services are providing mariners with vital real time information regarding vessel traffic and hazards within ports, which substantially reduces the risk of vessel accidents.

*San Francisco Bay.* The USCG Vessel Traffic System (VTS) established in 1972 has helped coordinate the safe and efficient transit of vessels for almost 25 years in San Francisco Bay. Recent improvements to that system include increasing the capability to monitor new areas such as the Carquinez Straits. These improvements were made in part because of recommendations by the San Francisco Bay Harbor Safety Committee. Although San Francisco Bay is a difficult place to navigate due to large tidal variations, fog, and other natural and human-made hazards, it now has one of the lowest accident rates of the high-traffic-density harbors in the United States (Lundstrom, pers. comm.).

*Los Angeles/Long Beach Harbors.* California has one Vessel Traffic Information Service (VTIS), established in 1994, which serves Los Angeles and Long Beach harbors under a unique partnership. The Harbor Safety Committee for the Ports of Los Angeles/Long Beach helped establish the VTIS with the assistance of the Marine Exchange of Los Angeles/Long Beach Harbor, USCG, Ports of Los Angeles/Long Beach, and OSPR. The VTIS facility is operated by the Marine Exchange of Los Angeles/Long Beach Harbor in partnership with the USCG. Financial assistance to establish this service was provided through a low interest loan from the OSPR (since repaid ahead of schedule) and a grant from the Ports of Los Angeles/Long Beach, with long-term operation of the system financed through user fees paid by vessels using the service.

Results of the VTIS are impressive. Close quarters incidents (ships passing within one quarter nautical mile of one another) are down by over 50%, and appear to be falling each month. There have been no collisions (ship to ship contact), groundings, or allisions (ship contact with a stationary object such as a pier) in the VTIS "area of responsibility" since March 1, 1994 (Aschemeyer, pers. comm.). The VTIS area of responsibility includes the Ports of Los Angeles/Long Beach and extends across a 20-mile arc from Point Fermin seaward.

In 1996 the State Legislature authorized the expansion of the VTIS into Santa Monica Bay, with radar/radio oversight and control of all tanker movements in and out of the El Segundo marine oil terminal facilities (AB 748, Kuykendall; Chap. 363, Stats.1996). AB 748 provides funding for this expansion using interest from the Oil Spill Response Trust Fund authorized pursuant to the Oil Spill Prevention and Response Act of 1990.

### **Traffic Separation Schemes**

The TSS in the Santa Barbara Channel extends from the waters northwest of Los Angeles to Point Conception. After its original designation, the USCG received approval from the International Maritime Organization to alter the route of the Santa Barbara Channel TSS near Anacapa Island to accommodate the location of an oil and gas drilling platform. During the 1980's the USCG developed additional proposals to establish a new routing system off the coast of Central California from Point Conception north to the entrance of San Francisco Bay to enhance vessel traffic safety. For various reasons, none of these proposals were implemented.

A key factor precluding a central coast TSS designation in the past was the objection by the Minerals Management Service regarding the impact of these designations on potential oil and gas development leasing. The USCG has no current proposals for a vessel routing system off the Central or Northern California coasts, although operators transporting Alaska north slope oil to San Francisco Bay and Los Angeles/Long Beach area ports have agreed to remain at least 50 miles offshore during transit (oil spill trajectory analyses indicate that the probability of oil spills reaching the coast is highly unlikely if spills occur farther offshore). The current agreement with these operators is informal and has never been mandatory under State, federal, or international law.

The Monterey Bay National Marine Sanctuary was established along the Central California coast after the Coast Guard's original TSS proposals were made in the 1980's. The current TSS at the entrance of San Francisco Bay puts southbound traffic from San Francisco directly into the Sanctuary and within five nautical miles of Pillar Point. A key question being considered in the studies described below is whether the current risk necessitates reconfiguring some or all vessel routes further offshore. Movement of all vessel traffic up to 50 miles off the coast would significantly reduce the chance of shoreline impact in the event of a spill and provide more time for tugs to arrive on scene to prevent tanker groundings. The OSPR supports the concept of moving vessel traffic farther from shore in their Coastal Protection Review, believing that this would be far more effective than stationing tugs to prevent tankers from grounding or stationing large amounts of oil spill cleanup equipment to respond to spills in remote areas along the central California coast. The OSPR will hold coastal workshops to explore the environmental and economic ramifications of moving vessel traffic farther from shore.

### **Coast Guard Vessel Traffic Routing Studies**

Key issues have yet to be addressed or resolved regarding potential measures to enhance vessel traffic safety off the California coast. Suggestions have been made to move vessel traffic further offshore to reduce the chance of shoreline impacts if an oil spill occurs, alter approaches to harbors, and station emergency response vessels along the Central California coastline to enable rapid response to disabled vessels or oil spills. Traffic routing studies have been conducted in recent years by the Western States Petroleum Association, Center for Marine Conservation, and the federal government.

The federal government has recently completed three major studies regarding vessel traffic safety off the California coast. However, these studies were long overdue. In January of 1996, Secretary for Resources Douglas Wheeler sent an inquiry to Rear Admiral James C. Card regarding the status of these studies expressing concern about the amount of time it had taken to complete them. Admiral Card's February 1996 response shared the Secretary's concerns and described the objectives of the three pending federal studies in some detail. These are the Tanker Free Zone Study, the Port Access Route Study, and the California Marine Sanctuary Vessel Study. The results of those analyses, now completed, are summarized below.

***Evaluation of Oil Tanker Routing.*** The Evaluation of Oil Tanker Routing Report (also known as the Tanker Free Zone Study) responds to requirements contained in Section 4111 of the Oil Pollution Act of 1990 directing the Secretary of Transportation to study whether existing laws and regulations are adequate to ensure the safe navigation of vessels transporting oil or hazardous substances in bulk on navigable waters and the waters of the exclusive economic zone. The report addresses the issue of whether Areas to be Avoided (ATBAs) should be established along the Pacific coast of the United States (excluding Alaska and Hawaii) to restrict oil tanker transport where navigation is particularly hazardous or it is exceptionally important to avoid casualties.

The Tanker Free Zone Study includes the following major conclusions:

*"The results of this study do not support a recommendation for designating specific areas where the movement of oil tankers should be restricted or prohibited."*

*"This report makes no recommendation for designating tanker free zones because tankers are not the sole oil spill threat to the most sensitive marine resources. This report suggests an approach to increasing the level of protection from oil spills to the most sensitive marine resource areas. The combined effects of all changes mandated by OPA 90 must be evaluated before a recommendation on routing restrictions can be formulated."*

While the USCG concludes that this report cannot alone resolve the issue of restricting tanker routing to protect sensitive resources, it does, however, provide information essential to any future decisions regarding vessel routing off the coast. The USCG has provided additional findings regarding vessel routing off the California coast through the recently completed Port Access Route Study and the California Marine Sanctuary Vessel Traffic Study.

***Port Access Route Study.*** The recently completed Port Access Route Study evaluated existing vessel routing measures to determine if they are sufficient to address navigational safety issues and environmental concerns which have arisen since the routing measures were established. The Ports and Waterways Safety Act (PWSA; 33 U.S.C. 1223(c)) requires the USCG to conduct the study prior to making any proposals to amend existing or establish additional Traffic Separation Schemes off the California coast. The Coast Guard summarizes the findings as follows:

*"The study concluded that the southern approach lanes of the existing traffic separation scheme (TSS) off San Francisco should be shifted seven miles seaward; the existing TSS in the Santa Barbara Channel should be extended from Point Conception to Point Arguello; and a precautionary area should be established at the northwest end of the Santa Barbara Channel TSS. The remaining TSS approach lanes, precautionary areas, areas to be avoided, and the shipping safety fairways within the studied area should remain as presently configured. No navigational need for additional offshore routing measures was identified."*

The Coast Guard has indicated it will hold hearings on the findings of this analysis in the Spring of 1997 in the San Francisco Bay Area.

**California Marine Sanctuary Vessel Traffic Study.** Section 102(d) of Public Law 102-368 and Section 2203(d) of the National Marine Sanctuaries Program Amendments Act of 1992 (PL 102-587) mandated that the Secretary of Commerce and Secretary of Transportation, in consultation with the State of California, report to Congress on vessel traffic risk within the Monterey Bay National Marine Sanctuary (MBNMS). In response to this requirement, the National Oceanic and Atmospheric Administration (NOAA) and USCG initiated the California Marine Sanctuary Vessel Traffic Study for Monterey and the three other national marine sanctuaries in California. This study addressed existing risks and evaluating the potential need for new vessel routing measures appropriate for the approaches to California ports and for additional measures to control vessel traffic in California's national marine sanctuaries. In an August 31, 1993 letter to Governor Wilson, the USCG described the specifics of the study approach:

*"The study will document the density of vessel traffic and the routes they follow; identify environmental resources and their sensitivities; identify impact of vessels (all types) navigating near environmental resources; analyze the effect of potential oil spills; determine if the existing vessel routing measures are adequate in light of changing traffic patterns and the designation of the Monterey Bay National Marine Sanctuary; and, determine if vessel regulations are needed to protect sanctuary resources in the four offshore California national marine sanctuaries."*

The study made the following general findings relevant to MBNMS resources:

1. MBNMS resources are nationally significant and require special protection;
2. MBNMS resources are sensitive to spilled oil; and,
3. Anecdotal evidence from studies conducted outside the MBNMS show that resources similar to those within MBNMS are sensitive to vessel operation and activities.

Using data from the Coast Guard's *Evaluation of Oil Tanker Routing* report and other sources, including the Western States Petroleum Association's *Tanker and Barge Movements along the California Coast*, the Center for Marine Conservation's *Safe Passage*, and *California's Shortfall Analysis for the Central Coast*, findings were made in four areas: (1) vessel movements; (2) oil transport; (3) technology; and (4) economic impacts. In the case of vessel traffic, the study makes several recommendations, including potential limitations on tanker movement. Options to be considered should include but are not limited to:

- (a) encouraging the continuation of voluntary compliance of all vessels carrying oil or other hazardous material as cargo to stay at least 50 miles offshore while transiting the coast or Sanctuary, except when entering or departing port;
- (b) pursuing implementation of an International Maritime Organization (IMO) recognized Area to be Avoided (ATBA) for the Sanctuary; and
- (c) directing all vessels carrying oil or other hazardous material as cargo to stay outside Sanctuary waters except when entering or departing port.

Other options include considering:

- limitations on movement of vessels carrying large quantities of bunker fuel.
- limitations on tank barge movements.
- amending the San Francisco TSS as necessary to achieve Sanctuary protection and navigation safety. The southern approach lanes of the TSS in San Francisco currently direct vessels into the MBNMS. Because commercial vessels currently transit through the Sanctuary when entering or

departing San Francisco, a scheme that directs vessels away from the Sanctuary will minimize the impact on resources.

This much-awaited study (released over two years beyond the statutory deadline) provides the recommendations summarized above for reducing shipping hazards, but future implementation is unclear. At the same time, the document identifies the importance of considering ways to reduce the burden of new requirements on shipping. It is unclear how these two objectives (marine protection and reducing burdens on the shipping industry) will be addressed. The Coastal Protection Review, produced by the OSPR, recommends that public workshops be held to address the environmental and economic ramifications of any additional vessel traffic management measures; this recommendation is also made in the Coast Guard's Marine Sanctuary Vessel Traffic Study. A productive solution would be for the Coast Guard and OSPR to jointly sponsor such workshops at several locations along the California coast.

### **Other Referenced Vessel Traffic Routing Studies**

**Operation Crystal Ball.** The USCG's 11th District completed a one-year analysis (January through December 1994) of crude oil tankers transiting the coast called Operation Crystal Ball, which provides data to help support the three federal vessel traffic routing studies discussed previously. The primary goal was to accurately track the prevailing movement of tankers throughout the 11th Coast Guard District's area of responsibility using existing surveillance practices. The second goal was to determine whether crude oil tank vessels were keeping industry pledges to remain 50 nautical miles from the coastline while in transit from Valdez, Alaska. Observers recorded the course, speed, name, point of origin and destination point for each tank vessel observed in an attempt to better understand existing traffic patterns of commercial vessels. The study found that observed tank vessel traffic transiting from Valdez Alaska to California ports were complying with this agreement. More importantly, it showed that there is still a significant amount of tanker traffic within the 50 nautical mile zone conducting intrastate-coastal trade of refined oil products, making port calls, or travelling in ballast. USCG representatives caution that these conclusions are based on a limited one-year study using observations from existing field patrols. A more thorough analysis would be necessary to draw statistically valid conclusions regarding overall tanker traffic patterns off the California coast. (K. Gregory, pers. comm.).

**Western States Petroleum Association Study.** In 1992, after consultation with the OSPR and USCG, 10 major oil company members of the Western States Petroleum Association (WSPA) entered into voluntary non-binding agreements to route all tankers carrying crude oil from Alaska to California ports at least 50 nautical miles offshore. This commitment affects approximately 85% of all tankers delivering crude oil to the State of California (OSPR 1991). Since the original agreements were made, a tanker movement study was conducted by the WSPA which determined, based on interviews with its members, that almost 90% of all tanker traffic is at least 25 miles off the coast and nearly 50% is at least 50 miles offshore. According to reports and data from the Marine Exchange of Los Angeles/Long Beach Harbor, oil tanker traffic through the Santa Barbara Channel has been "reduced to insignificant levels" since the imposition of the agreement (Aschemeyer, pers. comm.). However, the many other non-petroleum, hazardous or dry cargoes which enter California's ports by ship are not affected by this agreement as their operators are not members of WSPA (Moore, pers. comm.).

**Center For Marine Conservation Study.** The Center for Marine Conservation, a non-governmental organization, published a study titled, *Safe Passage: Preventing Oil Spills in Our Marine Sanctuaries* in 1994, which evaluates methods for safeguarding marine sanctuaries offshore California from vessel oil spills. The USCG, NOAA, and State of California have considered the study and its 10 recommendations for reducing the risk of vessel accidents, including the need for moving tanker traffic farther offshore, changing the San Francisco Bay TSS, more emergency response vessels for towing and firefighting, and improving vessel traffic monitoring. These recommendations and supporting information were considered in the development of OSPR's Coastal Protection Review (see the chapter titled, *Oil, Gas and Other Mineral Resource Extraction*) and were evaluated as part of the three Coast Guard studies described previously.

## High Seas Lightering Operations Off California

With Alaska North Slope Crude oil supply declining and lowered delivery costs of foreign crude oil, the Chevron Shipping Company has initiated an experimental program, the Pacific Ocean Lightering Plan. This operation will deliver large quantities of Middle East crude oil to California refineries using a special Very Large Crude Carrier tanker with a 2-million barrel capacity. Because of the size and draft of this vessel, it cannot enter nearshore marine terminals and will therefore transfer its crude into smaller shuttle tankers with a 1-million barrel capacity. The shuttle tankers are double-hulled, making them safer than the older, single-hulled vessels used currently in Trans-Alaska Pipeline System trade. As crude oil reserves from the Alaska North Slope decline, crude oil shipments from Chevron and other sources may become economically viable using offshore lightering. Such deliveries would replace shipments currently moving along the California coast to marine terminals in Southern California.

Transfer operations are taking place approximately 90 miles off the San Diego coastline and, although within the exclusive economic zone, the site is on the high seas. The USCG has determined that the federal designation of a lightering zone is not necessary for the current operations. Therefore, there will be no consistency review under the Coastal Zone Management Act unless the USCG determines that a lightering zone designation is necessary in the future. However, the ships have been inspected by the USCG and Chevron is providing the USCG and OSPR with their operations manuals and contingency plans for preventing oil spills or responding to those that do occur. The USCG will observe the lightering operations and is coordinating its monitoring program with the OSPR.

Chevron states it will be conducting one transfer per month for six months and will provide reports on the success of the operations to the USCG and State of California. In addition, Chevron has agreed that all vessels carrying crude oil will remain at least 50 miles offshore until they intersect with traditional harbor approach lanes. If successful, Chevron plans to continue and possibly expand operations, with other companies also interested in potentially conducting such operations in the future. The federal Ports and Waterways Safety Act provides for the designation of offshore "lightering zones" to establish internationally-recognized areas for these operations. This will be an important consideration in the future if long-term or expanded offshore lightering operations are anticipated, so that the USCG and State can be assured that such operations are being conducted in the safest and most appropriate areas possible.

## FINDINGS AND RECOMMENDATIONS

### Finding

***Vessel traffic safety off the California coast remains a major policy concern for California.*** Significant progress has been made in improving vessel traffic safety both offshore California and within its ports, but the State must continue to identify and evaluate appropriate government and private sector solutions or methods for reducing vessel traffic hazards. Recommendations identified during the Office of Oil Spill Prevention and Response's first Coastal Protection Review will provide guidance for reducing hazards from vessel operations offshore and within California ports.

***Recommendation F-1. Implement the measures necessary to further reduce vessel traffic hazards within port areas or off the coast.*** Specifically, the State should:

- consider the vessel traffic safety recommendations resulting from the first Coastal Protection Review, including expanding voluntary agreements for tankers and barges to transit the coast a safe distance from shore, working to establish permanent international routes to minimize spill threats, considering amendments to the Oil Spill Prevention and Response Act of



1990 to include the regulation of all ships greater than 300 gross tons, improving aids to navigation and vessel inspection procedures, and expanding the coverage of vessel traffic information systems; and

- urge the U.S. Coast Guard and the Office of Oil Spill Prevention and Response to jointly sponsor public workshops (in cooperation with other State agencies, industry, and public interest groups) to explore the need for additional measures for enhancing vessel traffic safety. If such measures are deemed necessary, State and federal authorities should work with all interested parties to implement necessary safety measures.

## **Finding**

***Oil lightering operations are being conducted on an experimental basis over 90 miles off the California coast in international waters.*** These operations may continue on a long-term basis and be expanded by the current operator or other operators. While common world-wide, this type of offshore oil transfer has not previously been practiced off the California coast for long periods of time with such large volumes of oil.

***Recommendation F-2. The Office of Oil Spill Prevention and Response, in cooperation with the U.S. Coast Guard, other State agencies, and interested parties, should evaluate the safety of lightering operations being conducted on the high seas off the California coast.*** If safety concerns are identified with existing or expanded operations, the State should urge the U.S. Coast Guard, pursuant to the Deep Water Port Act Amendments of 1984 and the Oil Pollution Act of 1990, to designate lightering zones that represent the safest options for long-term operations.